



Groundwater Caucus November 10, 2011

MEETING SUMMARY California Water Plan Update 2013 Groundwater Caucus November 10, 2011 9:00am-12:30pm Center for Collaborative Policy: 815 S Street, First Floor Sacramento, CA

Table of Contents

Welcome and Introductions	1
Water Plan Groundwater Content Enhancement	2
Deliverable 1: Compile Groundwater Information	3
Deliverable 2: Summarize Groundwater Conditions and Management Activity.....	3
ACWA/DWR Groundwater Management Survey	5
Deliverable 4 – Estimate Annual Change in Groundwater Storage	6
Deliverable 6 - Inventory and Describe Potential for Conjunctive Management.....	7
Planning For 2012/2013 Caucus Meetings	9
Presentation on Groundwater Information to Stakeholders	9
Water Board’s Groundwater Strategic Work Plan.....	10
Closing Remarks	10
Attendance.....	11

Action Items

- Post questions on survey monkey and provide to Caucus members.

Welcome and Introductions

LewMoeller, Project Manager for Water Plan Update 2013, Department of Water Resources (DWR), welcomed all participants. He expressed his appreciation to the presenters for their hard work in developing the groundwater contents. He stated that the groundwater content was one of the new enhancements DWR had undertaken for Water Plan Update 2013, and that the

participation of the Groundwater Caucus was encouraging and was evidence of how interested the stakeholders were in this topic.

Water Plan Groundwater Content Enhancement

Abdul Khan, Groundwater Workteam Lead, DWR, presented an overview of the scope and timeline for the groundwater content enhancements for Update 2013. He stated that the objective of the enhancement was to expand information about statewide and regional groundwater conditions to better inform groundwater management actions and policies through compilation and summarization of data and analysis. He added that the objective of the enhancement planned for Update 2013 was not necessarily to solve all the groundwater issues in the State, but rather to establish a framework to help manage the State's groundwater resources more effectively and efficiently on an on-going basis.

Mr. Khan explained that the premise of the groundwater enhancement was to operate within the confines of existing water laws and regulations and that the planned deliverables would be based on the best existing and available data, information, and analyses.

The scope of the enhancement effort includes:

1. Compile groundwater information.
2. Summarize groundwater conditions and management activity.
3. Identify data gaps.
4. Estimate annual change in groundwater storage.
5. Present Case Studies.
6. Inventory and describe potential for conjunctive management of groundwater and other supplies.
7. Inventory and describe potential for groundwater banking and integrated flood management.
8. Develop preliminary sustainability indicators.

The following is the project schedule:

- Revise Project Charter based on Public AC feedback: Spring 2011
- Revise Project Charter based on feedback from the Groundwater Caucus: May 19, 2011
- Compile and summarize information, and identify data gaps: Early 2012
- Conduct analysis and prepare draft document: Spring 2012
- Refine analysis and document: Spring 2013
- Finalize analysis and document: Fall 2013

The focus of this Caucus meeting is to discuss and seek guidance on the following deliverables:

- 1 - Compile groundwater information.
- 2 - Summarize groundwater conditions and management activity.
- 4 - Estimate annual change in groundwater storage.
- 6 - Inventory and describe potential for conjunctive management of groundwater and other supplies.

Deliverable 1: Compile Groundwater Information

Kelly Staton and Roy Hull, DWR, discussed the scope and status of Deliverable 1.

The presenters outlined the tasks associated with Deliverable 1: Compile State, Federal, and Local Planning Activities:

- 1.1: Groundwater Management Plans.
- 1.2: CASGEM Groundwater Monitoring Plans.
- 1.3: Integrated Regional Water Management Plans.
- 1.4: Urban Water Management Plans.
- 1.5: Agriculture Water Management Plans.
- 1.6: Water Transfer Data.
- 1.7: Groundwater Modeling Reports.

They reviewed the scope and status of each task. The PowerPoint presentation with full details is available at the Water Plan website: <http://www.waterplan.water.ca.gov/materials/2011.cfm>.

Groundwater management plans are not required to be submitted to DWR; therefore the Department has to contact local entities to gather the information. DWR has collected 132 Plans and 112 Shape Files. They asked the participants to share any plans or shape file they might be aware of.

Discussion:

Wendy Philips, League of Women Voters (online), asked what the compliance rate of local water agencies submitting the required plans to DWR (Agriculture Water Management Plans and Urban Water Management Plans) was. Ms. Staton responded that those agencies that did not submit the plans were not eligible for grants. However, Dan McManus, DWR, explained that DWR did not have specific knowledge about the compliance rate and that more research was needed to determine the compliance rate.

One participant asked if DWR would like shape files for water management plans that stakeholders had. Ms. Staton responded that yes, she would be happy to receive any such reports that provide information on groundwater. Mr. McManus added that DWR was also interested in shape files for groundwater management plans in non-alluvial basins.

Deliverable 2: Summarize Groundwater Conditions and Management Activity

Mr. McManus discussed the main tasks under Deliverable 2 including:

- 2.1: Provide brief physical description of the regional aquifer systems.
- 2.2: Provide a general overview and status of the regional aquifer conditions.
- 2.3: Provide a general overview and status of groundwater management activities.

Mr. McManus reviewed what was in and out of scope for the enhancement. Next he reviewed the

feedback received from the May 19, 2011 Caucus meeting on the specific questions posed to the Groundwater Workteam. He presented the changes that were made based on the feedback. The PowerPoint presentation with full details is available at the Water Plan website:

<http://www.waterplan.water.ca.gov/materials/2011.cfm>.

Some feedback provided in the May Caucus meeting was that the data should be presented by physical boundaries rather than political boundaries, with some options for mapping overlay.

He reviewed the preliminary groundwater report outline and organization. The outline was drafted based on the proposed content; the actual content will be based on available information as the Workteam continues to develop groundwater contents.

Mr. McManus also reviewed the timeline, explaining progress is slightly behind schedule. However, he stated that in April 2012 there would be an initial internal admin draft report. The internal draft will have limited public release, but will be provided to the Groundwater Caucus for review and feedback. He mentioned that State Water Resource Control Board staff offered assistance with some of the content development. DWR appreciates this assistance.

Mr. Khan added that the Workbook lists in more details the comments received and is available at the Water Plan website: <http://www.waterplan.water.ca.gov/materials/2011.cfm>.

Discussion:

Ali Taghavi, RMC-WRIME, asked if the report included any surface water and groundwater interactions; he cautioned that the report should not focus solely on groundwater. Mr. McManus responded that it was not covered currently in the draft, but he agreed that some mention of surface water and groundwater interaction would be good. He noted that this topic would be covered under Deliverable 6.

Tim Parker, Groundwater Resources Association of California, explained that there should be flexible data standards developed as part of this program. There should be some discussion about this in the future Caucus meetings. Mr. McManus agreed, noting that while CASGEM was establishing some standardized methods, a lot of other efforts were working with their own methods.

Mr. Taghavi asked if DWR had developed a review template for the work being done. Mr. Khan commented that a standardized template in a common platform would make it easier to synthesize and analyze the data. He explained the Workteam would develop what it could as part of Update 2013, and anything that was not done as part of the Update 2013 would be carried forward onto Update 2018. He added that Workteam members would only be able to select a subset of the suggestions from the Caucus to work on for this Update, as the planned deliverables already appeared to be an ambitious goal.

Mr. McManus mentioned that legislation did not require standardized plans in reporting or collecting data.

Bruce Gwynne, Department of Conservation, asked if staff was able to determine the contribution of snow melt, precipitation, and runoff to groundwater recharge. Mr. McManus responded that DWR would need that information from the local agencies in order to include it in the groundwater content being developed. He explained that the first step was tracking what agencies were capturing and that the next step would be tracking the benefits. Mr. Khan mentioned that ACWA was planning to come up with some ways to track benefits and some of that information might become available at a later time.

Mr. Taghavi stated that he understood the current Groundwater Enhancement initiative was based on compiling existing data and reports to paint a good picture of current groundwater conditions and management in the State. He further stated that in future there might be an opportunity to look into groundwater recharge and any associated benefits more closely.

Steve Haze, Sierra Resource Conservation District, asked if there was anything addressing naturally accruing recharge such as the underlying geology in fractured rock aquifers. Mr. McManus explained that they would not be able to go into that detail yet.

Rob Swartz, Sacramento Groundwater Authority, asked what the concern about overlapping basins was. Ms. Staton explained that overlapping was not the main issue, but the concern was about double and triple counting of an area due to overlapping areas.

Tito Sasaki, CA Farm Bureau Federation, suggested that the report provide a snap shot of the gaps in groundwater science. Mr. Parker stated that this related to having some kind of web portal for information to make it easily accessible to people.

ACWA/DWR Groundwater Management Survey

Danielle Blacet, ACWA, reviewed the Groundwater Management Survey ACWA developed for its members working closely with DWR. She explained that the survey was released on Oct 26, 2011 and that ACWA had received about 40 responses so far. She explained that they expected a lot more responses and that the survey requested agencies to provide information they had.

ACWA will be hosting workshops to explain why it is important to participate in the survey and provide the information. She explained that it was important to provide groundwater information to policy makers so that they had a better idea about what was happening in the State. She mentioned that the first workshop was tentatively scheduled for December 12 in Riverside (Note: the final scheduled workshop dates are January 17 for Tulare Lake Regional Forum, January 18 for San Joaquin River Regional Forum, and January 20 for Sacramento River Regional Forum.

The details are available at the Water Plan website:

<http://www.waterplan.water.ca.gov/materials/>).

Mr. Taghavi asked if ACWA was finding a big difference in the management of adjudicated groundwater basins from that of non-adjudicated basins. Ms. Blacet explained she could not speak to that yet, as the information had not been pulled and evaluated. ACWA will wait until January when it will have more data to look into to assess the findings.

Eric Oppenheimer, SWRCB, asked if anyone had defined what the elements of a successful groundwater management program were. Ms. Blacet explained that one of the desired outcomes of the proposed survey would be to find that and that was why ACWA was collecting these data. Once the data are gathered, ACWA wants to start the analysis on what the elements of successful groundwater management programs are.

Matt Keeling, CRWQCB, mentioned that learning the lessons from those programs that were not successful would be valuable as well. Mr. Khan explained that Deliverable 5 would be focusing on case studies. The Groundwater Workteam presented some ideas about case studies at the May 19 Caucus meeting and received feedback that it was important to include in case studies agencies that had encountered problems in implementing their programs. Ms. Blacet mentioned that ACWA in its Groundwater Management Framework included case studies of successful programs but that they would in future also present case studies that experienced challenges. Mr. Keeling explained that case law as well as the lack of recognition of land use and groundwater connections are elements of failure in terms of the law. Mary Scruggs, DWR, noted that for groundwater, a management strategy needed to be appropriate for the area under consideration. She cautioned that a strategy that worked in one place might not work in other places and that needed to be discussed clearly.

Deliverable 4 – Estimate Annual Change in Groundwater Storage

Bill Brewster, DWR, discussed the tasks and status associated with Deliverable 4. He stated that the following tasks were included in Deliverable 4:

- 4.1: A technical memorandum describing the GIS model
- 4.2: Annual Spring GW level data, 2006 - 2010
- 4.3: Estimated yearly change in GW storage, 2006 – 2010.
- 4: Report change in GW storage results

Mr. Brewster explained that Task 4 would quantify estimated change in groundwater storage as determined from seasonal groundwater level data. Such a method to estimate change in groundwater storage must be transparent, repeatable, and reliable. The GIS modeling tool being developed and tested by the Workteam automates the processing of a large data set of observed groundwater levels.

Changes in annual groundwater storage are based on comparisons of spring groundwater level data collected from two consecutive years. The water levels represent unconfined to semi-confined aquifer conditions. The GIS tool requires that groundwater level data reside in a single database (DWR's Water Data Library). Specialized GIS tools query and plot the data using a

map based interface. Mr. Brewster noted that the “Spring” measurement in each basin did not always correlate to the Spring time of the year, but rather it is reflective of the highest groundwater level of the year. In some places the “Spring” reading may be in January and in other places it may be March.

Mr. Brewster also stated that the Workteam had begun defining the terminologies used in the analysis.

Mr. Brewster presented a draft map displaying the seasonal data on groundwater level contour representing groundwater elevation surface for Spring 2009. Mr. Brewster shared other maps as examples, as well as illustrations of how QA/QCs could be done by a user.

Discussion:

Mr. Gwynne pointed out that each graphic representation shown depicts a change in groundwater storage with a different zero, and that the zero should be constant irrespective of the graphic representation.

Other participants stated that the graphic representations were not intuitive.

Mr. Brewster had specific questions which he wanted feedback on. Facilitator, Lisa Beutler, explained that in the interest of time, staff would post the questions on survey monkey to get feedback from the Caucus members. Caucus members agreed to provide their input in that format.

Action Item: Post questions on survey monkey and provide to Caucus members.

The PowerPoint presentation with full details is available at the Water Plan website:

<http://www.waterplan.water.ca.gov/materials/2011.cfm>.

Deliverable 6 - Inventory and Describe Potential for Conjunctive Management

John Kirk, DWR, presented the scope and status of Deliverable 6. Mr. John Kirk explained that the three main goals were to inventory existing conjunctive use, recharge, and groundwater banking projects; determine future conjunctive management potential; and define the existing constraints.

Goal 1: Inventory existing conjunctive use, recharge and groundwater banking projects includes the following tasks:

Data Gathering – Published Sources

- Compile published sources
- Summarize issues, lessons learned, policies, and constraints
- Identify data gaps

Data Gathering – Past Surveys of Groundwater Banks

- Update groundwater banking surveys
- Expand to other types of conjunctive use projects

Public/Private Partnership w/ACWA to update survey information

- Data gathering and compiling

Goal 2: Determine future conjunctive management potential includes the following tasks:

Identify/map/describe (GIS tool?)

- Available aquifer storage space
- Potential recharge areas
- Sources of available water
- Compare with areas of critical need

Groundwater Recharge Potential as a Result of Flooding

Goal 3: Define Constraints includes the following tasks:

Limitations on Conjunctive Management

- Water quality
- Water rights issues
- Limiting shallow water table
- Land use
- Inconsistent and uncertain regulatory status, for example, commingling of water of differing water qualities
- Lack of data and tools
- Storage and conveyance capacity limitations

Discussion:

Al Schiff, CPUC, offered to provide the staff with a survey identifying the names of aquifers so that the naming could be consistent. He explained that this survey also identified what aquifers were overdrafted.

Mr. Khan explained that the overdraft was being discussed in DWR's groundwater storage issue paper and that the change in storage issue was being addressed through Deliverable 4. Through Deliverable 4, the intent of the Workteam is to illustrate trends in annual change in groundwater storage as more data and information are gathered and analyzed.

Mr. Schiff asked if staff was looking into the actual time it took to draw out and fill an aquifer. Mr. Kirk explained that Mr. Schiff was referring to the lag time in recharge, which had to be figured out at the local level. Others mentioned there were models that could offer some assessments of this. Mr. McManus mentioned that one of the items the Workteam would look into were the key hydrographs, and the timing of drawdown and recovery. During normal and dry years aquifers levels are expected to go down and during wet years they are expected to have some recovery.

Lindsay Swain, URS Corporation, asked if the change in groundwater storage mentioned in the presentation was for alluvial and unconfined basins. Mr. Kirk mentioned that yes; their

presentation focused on unconfined and semi-confined basins. Mr. Brewster added that for Deliverable 4, the task right now was also focused on unconfined and semi-confined basins; however, he noted that the GIS tool could understand data from different sources.

One participant added that the list of limitations presented in the PowerPoint slide did not include “surface water source and variability,” particularly how it related to federal and State regulations. Staff responded that both the variability of quantity and quality would be added to the list of limitations.

Mr. Taghavi reiterated the importance of terminology and establishing common definitions. He noted that the word “basin” was being used to mean reporting area rather than the usual definition of basin. Another flag he raised was on the word “capacity;” did it mean how much had been stored or how much could be stored? Mr. Keeling added that the phrase “conjunctive management project” had also been used too broadly.

Vicky Newlin, Butte County, cautioned that readers of the groundwater report need to understand that the data presented were snap shots, and that changes in data from year to year could be useless in the long term story. Mr. Haze agreed and also pointed out that it should be made clear that there were large geographical areas in the State where conjunctive management could not be implemented due to water rights issues and other links between water and land use.

Ben Rubin, Governor’s Office of Planning and Research, asked if the GIS tools for Deliverables 4 and 6 would be separate or combined in the future. Mr. Brewster explained that currently these tools were envisioned to be separate, but that the GIS tool could evolve to be more user friendly and usable by multiple users for multiple purposes.

Planning For 2012/2013 Caucus Meetings

This agenda item was shortened in the interest of time. Members of the Public Advisory Committee assisted staff in putting together the schedule. A handout of the schedule was provided and is also available at the Water Plan website:

<http://www.waterplan.water.ca.gov/materials/2011.cfm>.

Presentation on Groundwater Information to Stakeholders

Barbara Hennigan, Butte-Sutter Basin Area Groundwater User, presented the Caucus and the Workteam with some cautions and best practices to keep in mind as they draft the report. She explained that staff should keep in mind the target audiences such as a legislative aide who could be asked to read the report to see if the report contains information related to his or her District.

She reviewed the limitations in the language used to describe groundwater and basins and how uncommon many of the terms were for potential readers who may read this part of the Water Plan. She showed examples of how to illustrate the ideas visually which would be helpful for readers. She suggested that the Workteam use modifiers within the section to make clarifications.

Water Board's Groundwater Strategic Work Plan

Eric Oppenheimer, SWRCB, presented an overview of the State Water Board's Groundwater Strategic Work Plan. He explained that the Water Board viewed this Groundwater Caucus meeting as a great opportunity for cross communication and coordination. He mentioned that the Work Plan was in the early stages of development, and that it was a priority set by the Board for the current fiscal year. He added that, as with many water agencies, groundwater had become more of a concern for the Water Board.

Mr. Oppenheimer wants to solicit input on a concept paper describing the purpose and the main groundwater issues in the State, such as, degraded pollutants, pumping, recharge and input needs. For each problem, Water Board staff is going to describe the problem as they understand it, and provide an outline of potential strategies that can be used to address the problem. These are just potential ideas for addressing the problems and are not final. The Work Plan is about identifying strategies to address the problems, rather than controlling the problem.

He explained that the Water Board was planning to get the concept paper out in the next 60 days.

Discussion:

Mr. Oppenheimer asked the Caucus if they noticed anything big that was missing in the concept paper. Danny Merkley, CA Farm Bureau Federation, mentioned that the slide about pollutants should include that there were legacy pollutants such as DTD and arsenic that had not been used for decades but were still found in water.

Mr. Gwynne mentioned that it was the position of the Water Board to reduce industrial pollutants from septic systems.

Closing Remarks

The Groundwater Workteam and the facilitator thanked the presenters and all the participants for attending the Caucus meeting. The next planned Caucus Meeting will be in April 2012.

Attendance (49)

Caucus Members (31):

Name	Organization
1. Timothy Parker	Groundwater Resources Association of California (PAC)
2. Vicki Kretsinger Grabert	Groundwater Resources Association of California
3. Al Schiff	CPUC
4. Ali Taghavi	RMC-WRIME
5. Anton Favorini-Csorba (online)	Legislative Analysis Office (LAO)
6. Barbara Hennigan	Butte-Sutter Basin Area Groundwater Users (Design Team)
7. Ben Rubin	Governor's Office of Planning and Research (SASC)
8. Bruce Gwynne	CA Department of Conservation I(SASC)
9. Burt Wilson (online)	Burt Wilson Co.
10. Chuck Jachens	Bureau of Indian Affairs - Pacific Region
11. Danielle Blacet	Association of California Water Agencies (ACWA)
12. Danny Merkley	Ca. Farm Bureau Federation (PAC)
13. Dave Orth	Kings River Conservation District
14. Eric Oppenheimer	State Water Resources Control Board
15. Eugene Massa Jr.	Colusa Basin Drainage District
16. John Rossi	Western Municipal Water District and ACWA
17. Karl Longley	California Water Institute - Fresno
18. Kirk Nelson	US Bureau of Reclamation (alternate for Jobaid Kabir)
19. Laurel Marcus (online)	CA Land Stewardship Council
20. Lindsay Swain	URS Corporation
21. Matt Keeling	CRWQCB - Central Coast Region
22. Maurice Hall	The Nature Conservancy
23. Nick Konovaloff	Regional Council of Rural Counties
24. Rob Swartz	Sacramento Groundwater Authority
25. Saquib Najmus	RMC-WRIME
26. Scott Warren (online)	DTSC
27. Steve Haze	Sierra Resource Conservation District (Design Team)
28. Tito Sasaki	Sasaki Vineyards (also belongs to CA Farm Bureau Federation [Design Team])
29. Valerie Nera	CA Chamber of Commerce
30. Vickie Newlin	Butte County
31. Wendy Phillips (online)	League of Women Voters of California (PAC)

Staff (13):

1. Jose Alarcon (online)	DWR, Lead for Water Quality
2. Bill Brewster	DWR, Lead for Groundwater Enhancement - Deliverable 4
3. Roy Hull	DWR
4. Abdul Khan	DWR, Lead for Groundwater Enhancement
5. John Kirk	DWR, Lead for Groundwater Enhancement – Deliverables 6 & 7
6. Dane Mathis	DWR
7. Dan McManus	DWR, Co-lead for Groundwater Enhancement
8. Lew Moeller	DWR , Water Plan Update 2013 Project Manager
9. Mark Nordberg	DWR
10. Mary Scruggs	DWR, CASGEM Program Manager
11. Erin Smith (online)	DWR
12. Kelly Staton	DWR, Lead for Groundwater Enhancement - Deliverable 1
13. Mark Souverville (online)	DWR

Other Guests (5):

1. Richard Hinrichs (online)	CA Department of Public Health
2. Patrick Maloney (online)	
3. Kay Mercer (online)	
4. Christina Mokhtarzadeh (online)	
5. Betty Yee	CWQCB Central Valley

Facilitation Team:

Lisa Beutler	MWH
Charlotte Chorneau	Center for Collaborative Policy, CSUS